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Serial No. 09/921,272 Examiner LY Art Unit 2686
Response to April 26, 2005 Office Action

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method for transmitting data to selected wireless devices in a wireless network without assignment of a unique network address, respectively, to each of the wireless devices, the method comprising:

provisioning a wireless device with at least a hardware serial number (HSN) and multiple generic access numbers (GANs);

~~registering~~ ~~prompting the wireless device to register~~ with a service provider by randomly selecting a GAN and transmitting the GAN as well as the HSN to the service provider;

receiving a broadcast access number (BAN) and an identification of a radio channel at the wireless device;

receiving a broadcast over the radio channel with the broadcast including data directed to the wireless device and associated with the BAN; and

causing the wireless device to use the identification of the radio channel to monitor the radio channel and to use the BAN to access the data directed to the wireless device and associated with the BAN from the broadcast made over the radio channel.

2. (Currently Amended) The method of Claim 1, further comprising:

receiving the BAN and the identification of the radio channel at another wireless device having information needs in common with the wireless device; and

causing the another wireless device to use the identification of the radio channel to monitor the radio channel and to use the BAN to access the data ~~the broadcast made~~ over the radio channel;

~~whereby monitoring of the radio channel and use of the BAN by the another wireless device to access the data broadcast over the radio channel efficiently delivers information and yet saves network resources by avoiding over broadcasting or otherwise over burdening network infrastructure and resources.~~

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3. (Currently Amended) The method of Claim 1, further comprising:

in response to accessing the data, causing the wireless device to determine whether the data comprises a broadcast message by inspecting a structure of the data for a zero value in a data field for the HSN, indicating the broadcast message.

4. (Original) The method of Claim 3, wherein the wireless device determines the data comprises the broadcast message by determining the data comprises a serial number field containing zero.

5. (Original) The method of Claim 1, further comprising:

in response to accessing the data, causing the wireless device to determine whether the data comprises a point-to-point message for the wireless device.

6. (Currently Amended) The method of Claim 5, wherein the wireless device comprises a serial number; and

wherein the wireless device determines the data comprises the point-to-point message ~~for the wireless device~~ by determining the data comprises a serial number field ~~including a non-zero value~~ matching the serial number of the wireless device.

7. (Currently Amended) The method of Claim 5, wherein the wireless device comprises a serial number; and

wherein the wireless device determines the data does not comprise the point-to-point message ~~for the wireless device~~ by determining the data comprises a non-zero serial number field that fails ~~including a non-zero value failing~~ to match the serial number of the wireless device.

8. (Currently Amended) The method of Claim 1, wherein the wireless device receives a registration response comprising the randomly-selected generic access number (GAN)

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and multiple identifications of multiple radio channels, the wireless device switching to each radio channel and measuring a signal strength of each radio channel, the wireless device then sending a final request including the signal strength of each radio channel ~~the broadcast during a full period with respect to communications traffic.~~

9. (Cancel)
10. (Cancel)
11. (Withdrawn) A method for activation of a wireless device in a wireless system for receipt of information without assignment of a unique network address to the wireless device, the method comprising:
 - A. causing the wireless device to send a service registration request to an activation gateway;
 - B. in response to receipt of the service registration request, causing the activation gateway to send an initial authorization request to a message server;
 - C. in response to receipt of the initial authorization request, causing the message server to reply to the activation gateway with an authorization denial including a reference to at least a radio channel available to the wireless device for broadcast of information to the wireless device;
 - D. in response to receipt of the authorization denial, causing the activation gateway to send an activation response to the wireless device with the activation response including the reference to at least the radio channel;
 - E. in response to receipt of the activation response, causing the wireless device to conduct measurement activity with respect to at least the radio channel;
 - F. after conduct of the measurement activity, causing the wireless device to send a final activation request to the activation gateway with the final activation request including a measurement of at least the radio channel;

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G. in response to receipt of the final activation request, causing the activation gateway to send a final authorization request to the message server with the final authorization request including the measurement of at least the radio channel;

H. in response to receipt of the final authorization request, causing the message server to reply with a final authorization denial to the activation gateway with the final authorization denial including assignment of a particular radio channel and of a broadcast access number (BAN) to the wireless device;

I. in response to receipt of the final authorization denial, causing the activation gateway to send a final activation response to the device with the final activation response including the assignment of the particular radio channel and of the broadcast access number (BAN) to the wireless device; and

J. in response to receipt of the final activation response, causing the wireless device to enter the broadcast mode with respect to the particular radio channel, and to use the BAN to access the information broadcast over the particular radio channel and directed to the wireless device through inclusion of the BAN,

whereby the wireless device is activated in the wireless system and receives the information in broadcast mode through use of the BAN and without a unique network address being assigned to the wireless device.

12. (Withdrawn) The method of Claim 11, wherein the wireless device is provisioned with a plurality of broadcast access numbers (BANs); and

wherein the BAN assigned to the wireless device is one of the plurality of broadcast access numbers provisioned in the wireless device.

13. (Withdrawn) The method of Claim 11, wherein the wireless device is assigned an other BAN; and

wherein the wireless device uses the other BAN to access other information broadcast over the particular radio channel.

14. (Withdrawn) The method of Claim 11, wherein the measurement activity comprises measurement of signal strength of at least the radio channel.

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15. (Withdrawn) The method of Claim 11, wherein the reference in the authorization denial and the activation response comprises radio channels;
wherein the measurement activity comprises measurements of the signal strengths of each of the radio channels; and
wherein the final activation request comprises the measurements.
16. (Withdrawn) The method of Claim 11, wherein the radio channel comprises a frequency.
17. (Withdrawn) The method of Claim 11, wherein the particular radio channel comprises a frequency.
18. (Withdrawn) The method of Claim 15, wherein the radio channels comprise frequencies.
19. (Withdrawn) A method for registration of a wireless unit with a wireless network for receipt of data specifically directed to the wireless unit without an assignment of a unique network address (UNA) to the wireless unit and without using a UNA to route the data to the wireless unit, the method comprising:

sending a registration request to the wireless network, the registration request including a measurement of signal strength of at least a radio channel operative to broadcast the data specifically directed to the wireless unit with the radio channel being accessible to the wireless unit;

in response to the registration request, receiving from the wireless network an identification of a particular radio channel for making a broadcast of information including the data specifically directed to the wireless unit;

also in response to the registration request, receiving a broadcast access number (BAN) from the wireless network;

using the identification of the particular radio channel to monitor the broadcast of information by the particular radio channel; and

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using the BAN to access the data specifically directed to the wireless unit in the broadcast of information by the particular radio channel.

20. (Withdrawn) The method of Claim 19, wherein the data specifically directed to the wireless unit is associated with the BAN in the broadcast of information by the particular radio channel.
21. (Withdrawn) A method to activate a wireless unit in a wireless network so as to allow the wireless unit to receive data directed to the wireless unit and without having a unique access number (UNA) assigned to the wireless unit, the method comprising:

receiving a registration request from the wireless unit, the registration request including a measurement of signal strength of at least a radio channel operative to make a broadcast of information including the data directed to the wireless unit; and

in response to the registration request, providing a reply to the wireless unit, the reply including a broadcast access number (BAN) for accessing the data directed to wireless unit in the broadcast of information and including an identification of a particular radio channel making the broadcast of information including the data directed to the wireless unit,

whereby the wireless unit is activated to receive the data directed to the wireless unit without the assignment of a UNA to the wireless unit by providing the wireless unit with the identification of the particular radio channel used to broadcast the information including the data directed to the wireless unit and by providing the wireless unit with the BAN for use in accessing the data directed to the unit in the broadcast of information by the particular radio channel.

22. (Withdrawn) The method of Claim 21, further comprising:
- broadcasting the information including the data directed to the wireless unit over the particular radio channel.

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23. (Withdrawn) The method of Claim 22, wherein the data directed to the wireless unit in the broadcast of information comprises the BAN.

24. (Withdrawn) A method for determining whether to activate a wireless unit requesting activation in a wireless system, the method comprising:

checking whether the wireless unit is served by a base station capable of operating in broadcast mode; and

if the wireless unit is served by a base station capable of operating in broadcast mode, activating the wireless unit and providing the wireless unit with a broadcast access number (BAN) to use to access data directed to the wireless unit and included in information broadcast by the base station.

25. (Withdrawn) The method of Claim 24, further comprising:

if the wireless unit is not served by a base station capable of operating in broadcast mode, providing the wireless unit with identifications of radio channels in a serving area of the wireless unit and capable of making a broadcast including data directed to the wireless unit;

instructing the wireless unit to make measurements of the respective signal strengths of the radio channels and to return the measurements;

in response to the return of the measurements, selecting one of the radio channels based on the measurements as the selected radio channel; and

activating the wireless unit and providing the wireless unit with an access number to use to access information directed to the wireless unit and included in the broadcast by the selected radio channel.

26. (Withdrawn) The method of Claim 24, wherein the information directed to the wireless unit comprises the BAN.

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27. (Withdrawn) A method for transmitting data to a wireless device operating in a wireless system, the method comprising:
- providing a wireless device with a broadcast access number;
 - instructing the wireless device to monitor a radio channel for a broadcast including data associated with the broadcast access number and to use the broadcast access number to access the data;
 - creating a broadcast request including the data associated with the broadcast access number;
 - using the broadcast request to make a schedule for the broadcast including the data associated with the broadcast access number over the radio channel; and
 - based on the schedule, making the broadcast including the data associated with the broadcast access number over the radio channel.
28. (Withdrawn) The method of Claim 27, wherein the broadcast is made during a lull period with respect to communications traffic in the wireless system.
29. (Withdrawn) The method of Claim 27, wherein the broadcast request also is used to select at least one base station for making the broadcast including the data associated with the broadcast access number over the radio channel.
30. (Withdrawn) The method of Claim 29, wherein the at least one base station is selected for making the broadcast based on the number of wireless devices served by the at least one base station.
31. (Withdrawn) The method of Claim 29, wherein the at least one base station is selected for making the broadcast based on the traffic loading at the at least one base station.
32. (Withdrawn) The method of Claim 29, wherein the at least one base station is selected for making the broadcast based on the power base of the at least one base station.

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33. (Withdrawn) The method of Claim 27, further comprising:

providing other wireless devices having information needs in common with the wireless device with the broadcast access number;

instructing the other wireless devices to monitor the radio channel for the broadcast including the data associated with the broadcast access number and to use the broadcast access number to access the data,

whereby monitoring of the radio channel and use of the BAN by the other wireless devices to access the data efficiently satisfies the information needs held in common by the wireless device and the other wireless devices and yet saves network resources by avoiding over-broadcasting or otherwise over-burdening network infrastructure and resources.

34. (Withdrawn) The method of Claim 27, wherein the data associated with the broadcast access number comprises a broadcast message as indicated by a serial number field containing zero.

35. (Withdrawn) The method of Claim 27, wherein the wireless device comprises a serial number; and

wherein the data associated with the broadcast access number comprises a point-to-point message for the wireless device as indicated by a serial number field including a non-zero value matching the serial number of the wireless device.

36. (Withdrawn) The method of Claim 27, wherein the wireless device comprises a serial number; and

wherein the data associated with the broadcast access number does not comprise the point-to-point message as indicated by a serial number field including a non-zero value failing to match the serial number of the wireless device.

37. (Withdrawn) The method of Claim 27, wherein the broadcast is made during a lull period with respect to communications traffic in the wireless system.

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38. (Withdrawn) The method of Claim 27, wherein the broadcast comprises a low priority broadcast;

wherein a broadcast of higher priority than the low priority broadcast is pending;
and

wherein the low priority broadcast is made only after the broadcast of higher priority is made.

39. (Withdrawn) The method of Claim 27, wherein the broadcast comprises a discard eligibility feature;

wherein communications traffic in the wireless system warrants making use of the discard eligibility feature; and

wherein the discard eligibility feature is made use of by failing to make the broadcast.

40. (Withdrawn) A method for allowing a wireless device in a wireless system to retrieve information from a broadcast and to engage in a session exchange without an assignment of a unique network address to the wireless device, the method comprising:

providing the wireless device with a broadcast access number (BAN) and an identification of a radio channel so the wireless device monitors broadcasts on the radio channel and uses the BAN to retrieve information associated with the BAN from the broadcasts;

receiving a request from the wireless device to engage in a session exchange;

in response to the request, providing the wireless device with a temporary access number (TAN) including a time-to-live allowance, the TAN allowing the wireless device to engage in the session exchange during the time-to-live allowance; and

upon expiration of the time-to-live allowance, disassociating the wireless device from the TAN so the wireless device cannot continue to engage in the session exchange,

whereby the wireless device remains able to monitor the radio channel and retrieve the information associated with the BAN from the broadcasts while the wireless

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device also is able to engage in the session exchange using the TAN during the time-to-live allowance.

41. (Withdrawn) The method of Claim 40, further comprising:

after disassociating the wireless device from the TAN, making the TAN available for temporary assignment to another wireless device.

42. (Withdrawn) The method of Claim 40, wherein the session exchange comprises two-way messaging between the wireless device and another element over a global communications network.

43. (Withdrawn) The method of Claim 40, wherein the TAN is retrieved from the wireless device upon the expiration of the time-to-live allowance.

44. (Withdrawn) The method of Claim 40, wherein the time-to-live allowance cannot be extended.

45. (Withdrawn) The method of Claim 40, wherein the time-to-live allowance cannot be shortened.

46. (Currently Amended) A method for allowing a wireless device in a wireless system to engage in a transaction exchange with an element in a communications network without an assignment of a unique network address to the wireless device, the method comprising:

receiving a registration request from the wireless device, the registration request comprising a hardware serial number (HSN) and a randomly-selected generic access number (GAN);

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communicating to the wireless device a broadcast access number (BAN) and an identification of a radio channel for monitoring broadcasts on the radio channel and for using the BAN to retrieve information associated with the BAN from the broadcasts;

receiving an activation request from the wireless device, the activation request including transaction information;

in response to the activation request including the transaction information, causing the transaction information to be routed to the element in the communications network for the transaction exchange;

receiving a transaction response from the element in the communications network; and

in response to receipt of the transaction response, causing the transaction response to be associated with the BAN and to be included in a broadcast on the radio channel,

whereby the wireless device exchanges in the transaction exchange with the element in the communications network by sending the transaction information in the activation request and by retrieving the transaction response from the broadcast on the radio channel so that no unique network address is assigned to the wireless device.

47. (Currently Amended) The method of Claim 46, further comprising sending to the wireless device a registration response comprising the randomly-selected generic access number (GAN) and multiple identifications of multiple radio channels, and further comprising receiving from the wireless device a signal strength of each radio channel ~~wherein the transaction exchange comprises electronic commerce.~~
48. (Currently Amended) A method for a transaction exchange between a wireless device in a wireless system and a service provider without assignment of a unique network address to the wireless device, the method comprising:

sending a registration request from the wireless device, the registration request comprising a hardware serial number (HSN) and a randomly-selected generic access number (GAN) from multiple generic access numbers (GANs);

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~~receiving a providing the wireless device with~~ a broadcast access number (BAN) and an identification of a radio channel, ~~the wireless device monitoring so the wireless device monitors~~ broadcasts on the radio channel and ~~using~~ uses the BAN to retrieve information associated with the BAN from the broadcasts;

receiving a transaction request ~~from the service provider~~, the transaction request including transaction information and an identifier of the wireless device;

in response to receiving the transaction request, causing the transaction information to be associated with the BAN and to be included in a broadcast on the radio channel;

in response to the broadcast, receiving an activation request from the wireless device, the activation request including responsive transaction information;

in response to the activation request including the responsive transaction information, causing the responsive transaction information to be routed to the service provider;

whereby the transaction exchange takes place between the wireless device and the service provider by the transaction information being associated with the BAN and broadcast over the radio channel so the wireless device uses the BAN to retrieve the transaction information from the broadcast on the radio channel so that no unique network address is assigned to the wireless device.

49. (Currently Amended) The method of Claim 48, further comprising:

receiving a registration response comprising the randomly-selected generic access number (GAN) and multiple identifications of multiple radio channels, the wireless device switching to each radio channel and measuring a signal strength of each radio channel, the wireless device then sending a final request including the signal strength of each radio channel;

in response to the routing of the responsive transaction information to the service provider, receiving a transaction response from the service provider; and

associating the transaction response with the BAN and making a responsive broadcast of the transaction response with the BAN over the radio channel so that the

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wireless device retrieves the transaction response using the BAN from the responsive broadcast on the radio channel.